

WG3a: Sources (from e^+/e^- production to injection in damping rings)

Convenors:

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•First week:

- review of current R&D status which is, or can be made, mature enough to be incorporated in the ILC TDR baseline
- Identify R&D areas requiring attention

•Second week:

- Draft an R&D plan of topics needed to be addressed prior to TDR baseline
- Identify possible viable alternate designs

•Outcome of WG3a: list of R&D area that requires work + list of institution with specific interest (theory, simulation, hardware in these areas)

WG3a Program: e- source (2 sessions, ~ 3 hours)

- Design overview, impact of source choice on linac design
- Alternative solution (review of current R&D):
 - HV DC-gun with direct injection in linac (Cornell ERL)
 - N-cooled RF-gun (FNAL)
 - PWT RF-gun (Duly Inc)
- Photocathode & laser R&D status
- Discussion of the ILC baseline:
 - Review of TESLA TDR baseline (DC photo-emission + sub-harmonic bunching scheme)
 - discussion

WG3a Program: e⁺ source (4 session, ~7 hours)

- Review current R&D common to positron source
 - Beam dynamics and hardware for e⁺ capture
 - Beam dynamics for e⁺ linac, e⁺/e⁻ separation
- Positron source analysis/comparison: (undulator vs conventional)
 - Overview and features
 - Risk, current R&D status, and needed R&D
- Alternative design: Compton scattering-based e⁺ source
- Discussion of the ILC:
 - Probably from comparative study of undulator vs conventional sources